

--	--	--	--	--	--	--	--	--	--

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2017/2018

DPA5018 – PROGRAMMING FOR BUSINESS APPLICATIONS (DIT & DBIS)

17 MARCH 2018
09.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT:

1. This booklet consists of 7 pages.
2. **SECTION A:** Answer **ALL** questions on the OMR sheet provided.
3. **SECTION B:** Answer **ALL** questions on the OMR sheet provided.
4. **SECTION C:** Answer **ALL** questions in the answer booklet provided.

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQ) (10 Marks)

Instruction: Answer all the questions in this section and shade your answers on the OMR sheet provided.

1. You can run an application in all of the following ways **EXCEPT** _____.
 - A. Press the F5 key
 - B. Press the Ctrl-F4 keys
 - C. Click the start button on the toolbar
 - D. Click Debug on the menu bar, and then click Start on the Debug menu
2. Intellisense _____.
 - A. provides hints about the input data requested from the user
 - B. provides some automatic code completion inside the code editor
 - C. allows the user to easily modify properties for a control in design mode
 - D. is a feature that will help the programmer use proper naming conventions
3. The expression `intX _____ intY` yields the remainder after `intX` is divided by `intY`.
 - A. `Mod`
 - B. `/`
 - C. `^`
 - D. `\`
4. A(n) _____ occurs when there is potential for data loss during the conversion.
 - A. widening conversion
 - B. explicit conversion
 - C. mixed-type expression
 - D. narrowing conversion
5. Use keyword(s) _____ to avoid deep indentation due to nested `If...Then...Else` statements.
 - A. `IfElse`
 - B. `Then`
 - C. `ElseIf`
 - D. `Else If`
6. The _____ and _____ logical operators always evaluate both of their operands.
 - A. `And, Or`
 - B. `AndAlso, Or`
 - C. `Xor, OrElse`
 - D. `AndAlso, OrElse`
7. A _____ can be used in a repetition structure to control the number of times a set of statements will execute.
 - A. controller
 - B. declaration
 - C. counter
 - D. None of the above.
8. Which of the following is **NOT** required for counter-controlled repetition?
 - A. Initial value of the control variable.
 - B. The special value -1 to mark the end of data input.
 - C. Condition that tests for the final value of the control variable.
 - D. Increment or decrement by which the control variable is modified each time.

Continued ...

9. Sub procedures are _____.
- A. methods that cannot be called with arguments
 - B. methods that return an optional value
 - C. methods that can be called only once
 - D. methods that do not return a value
10. In the context of Visual Basic procedures and functions, what is an argument?
- A. A value passed to a procedure or function when the latter is called.
 - B. A local variable that retains its value between procedure calls.
 - C. A reason not to create a procedure or function.
 - D. A variable that a parameter is passed into.

SECTION B: TRUE or FALSE (10 Marks)

Instruction: Answer all the questions in this section and shade your answers (A for TRUE and B for FALSE) on the OMR sheet provided.

- 11. The Properties window allows you to modify control's properties without writing any code and displays a control's information.
- 12. When the user interacts with a GUI component, the interaction, known as an action, causes the program to perform a task by "calling" a method.
- 13. The string-concatenation operator is represented by the & character.
- 14. A restricted global variable cannot be referenced outside of the block in which it is declared.
- 15. The != operator compares two numbers to determine if they are not equal.
- 16. Control statements cannot be placed inside other control statements.
- 17. The Do Until...Loop repetition structure tests a condition for repetition to stop.
- 18. The optional Step keyword specifies the increment of the For...Next loop.
- 19. A function can return multiple values.
- 20. When a parameter is declared using the ByRef qualifier, the procedure has access to the original argument variable and may make changes its value.

Continued ...

SECTION C: STRUCTURED QUESTIONS (80 Marks)

Instruction: Answer all the questions in this section and write your answers in the answer booklet provided.

QUESTION 1**(20 Marks)**

a) Write codes to perform the following tasks:

- i) Declare Name as a variable that can hold text and Salary as a variable that can hold numbers with decimal points. (2.5 Marks)
- ii) Removes the spaces in a string named strAddress and assigns the result to label lblAddress. (1.5 Marks)
- iii) Copy a string from a textbox named txtLastName, converts the string to upper case and saves the string in strLastName. (1.5 Marks)
- iv) Display the phrase "Don't Mess With Melaka" in the message dialog box with title bar "Display Phrase". (2 Marks)
- v) Assign the value fixedCosts divided by (the difference of pricePerUnit and costPerUnit) to the variable breakEvenPoint. (2.5 Marks)

b) What will be the output of the following program when the button is clicked?

- i)

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
    Dim FullString As String = "Kota Kinabalu"
    lstOutput.Items.Add(FullString.Substring(7, 3))
    lstOutput.Items.Add(FullString.Substring(5))
    lstOutput.Items.Add(FullString.Substring(0, 4) & "raya")
End Sub
```

 (4 Marks)
- ii)

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
    Dim Target As String = "a;dsakfljfdgasldfjdl"
    lstOutput.Items.Add(Target.IndexOf("XXY"))
    lstOutput.Items.Add(Target.IndexOf("gas"))
    lstOutput.Items.Add(Target.IndexOf("j", 9))
    lstOutput.Items.Add(Target.IndexOf("s"))
End Sub
```

 (4 Marks)
- iii)

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
    Dim First As String
    First = "Inquire Inspire Innovate"
    lstOutput.Items.Add("#" & First.Trim)
    lstOutput.Items.Add(First.Length)
End Sub
```

 (2 Marks)

Continued ...

QUESTION 2**(20 Marks)**

- a) Write a code segment to determine whether a variable, `PayAmount`, is between 1200 and 1400, inclusively. If it is, you want to set `lblMessage` text to "Pay amount is in the range". (5 Marks)
- b) Use a `For...Next` loop with an `InputBox` to prompt the user ten times for the cost of a shoe; calculate a 35% discount for each value; and display the discounted shoes prices with currency formatting in `ListBox lstResult`. Display total amount needs to be paid with the currency format in `TextBox txtPayment`. Write a code segment to perform these tasks. The application's input and output should resemble the one shown below. (15 Marks)

Sample Output

Shoes Price

Enter the cost of shoes 1

1500

OK Cancel

Discount Calculation

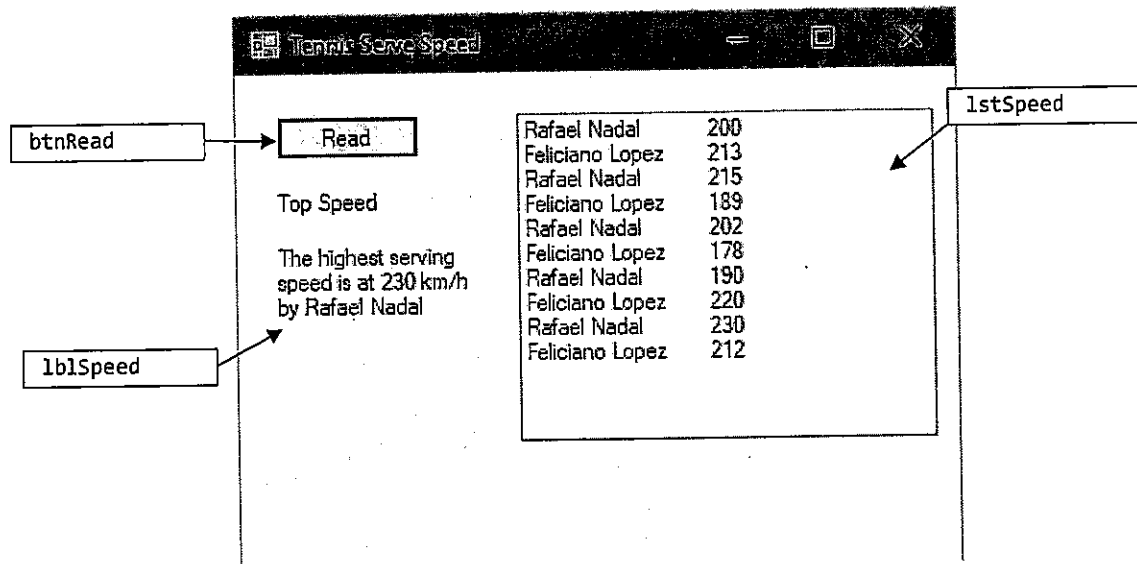
Actual Price	Discounted Price
\$1,500.00	\$975.00
\$1,000.00	\$650.00
\$2,450.00	\$1,592.50
\$5,000.00	\$3,250.00
\$1,999.00	\$1,299.35
\$3,450.00	\$2,242.50
\$2,050.00	\$1,332.50
\$4,999.00	\$3,249.35
\$7,560.00	\$4,914.00
\$7,999.00	\$5,199.35

Total Payment: \$24,704.55

Continued ...

QUESTION 3**(20 Marks)**

Create a Window application that extracts data from csv formatted text file named *tennis.txt*. When the Read button (*btnRead*) is clicked, data from *tennis.txt* will be displayed into the ListBox (*lstSpeed*).



- Declare a structure called *Tennis* as a class level scope. The structure contains two sub-variables; *playername* and *servespeed*.
- Below is the content of the *tennis.txt* text file. The numbers value represents the player's serving speed in km/h.

```
Rafael Nadal, 200
Feliciano Lopez, 213
Rafael Nadal, 215
Feliciano Lopez, 189
Rafael Nadal, 202
Feliciano Lopez, 178
Rafael Nadal, 190
Feliciano Lopez, 220
Rafael Nadal, 230
Feliciano Lopez, 212
```

- In the *btnRead* event procedure,
 - Declare a string array called *data()* and another array based on *Tennis* structure declared earlier called *game1()*
 - Use *Do...While* loop to read the content of the text file into the ListBox *lstSpeed*. However before being displayed in the ListBox, convert the comma separated data (using a *Split()* method) and store in a string array named *data()*.
 - Then the respective data will be transferred to appropriate sub-variable of *game1()* structure array.
 - Use *For...Next* looping statement to get the fastest serving speed and the player's name who perform the fastest serving speed.
 - Display the serving speed and player's name as show in the sample output.

Continued ...

QUESTION 4**(20 Marks)**

Create a Window application that retrieves the data recorded in the Movie Store database. In this application, the user can search movies based on the movie title or show a list of movies according to the genre.

	MovieID	MovieTitle	MovieYear	MovieLength	MovieGenre
▶	1	Casino Royale	2006	144	Action
	2	Charlie and the C...	2005	115	Family
	3	Back to the Future	1985	116	Comedy
	4	Inception	2010	148	Action
	5	Se7en	1995	127	Drama
	6	Interstellar	2014	169	Drama
*					

Please refer to the table below for the names for each form controls in this application.

Form Controls	Name
Textbox for Search Movie Title	txtSearch
Search Button	btnSearch
Combo box for Genre	cboGenre
Show Selected Genre button	btnGenre
DataGridView	dvgMovies

The data are retrieved from Table *Movies* in Database *MovieStore.accdb*. Below is the table structure and data which are already recorded in the database.

MovieID	MovieTitle	MovieYear	MovieLength	MovieGenre
1	Casino Royale	2006	144	Action
2	Charlie and the Chocolate Factory	2005	115	Family
3	Back to the Future	1985	116	Comedy
4	Inception	2010	148	Action
5	Se7en	1995	127	Drama
6	Interstellar	2014	169	Drama

Continued ...

Coding Guide

- Declare a connection string variable for the database connection as class level scope.
- Create a sub procedure called *loadDataGrid()* that takes a string value as a parameter called *sqlMovies*.
 - Declare **OleDbDataAdapter** object called *dataAdapter*.
 - Declare **DataTable** object called *dtMovies*.
 - The *dataAdapter* object will fill the *dtMovies* Data Table and then it will be disposed.
 - Display the content of the *dtMovies* Data Table in the Data Grid View.
- Create a sub procedure called *popCategory()*
 - Declare a string variable called *sqlGenre* and initialize with an SQL statement that retrieves records (but without any duplicated value) from the *MovieGenre* column in the *Movies* table.
 - Declare **OleDbDataAdapter** object called *dataAdapter*.
 - Declare **DataTable** object called *dtGenre*.
 - The *dataAdapter* object will fill the *dtGenre* Data Table and then it will be disposed.
 - Populate the content of the Combo box *cboGenre* with data from the *dtGenre* Data table.
- In the Form Load event procedure,
 - Declare a string variable called *sqlStr* and initialize it with an SQL statement to retrieve all records from the *Movies* table.
 - Call the *loadDataGrid* sub procedure and passed the *sqlStr* variable as the argument.
 - Call *popGenre* sub procedure to populate the combo box.
- When *btnSearch* is clicked,
 - Get the user input from the textbox.
 - Declare a string variable called *sqlStr* and initialize it with an SQL statement to retrieve all records from the *Movies* table containing text typed by the user in the Movie Title.
 - Call the *loadDataGrid* sub procedure and passed the *sqlStr* variable as the argument.
- When *btnGenre* is clicked,
 - Get the user input from the combo box.
 - Declare a string variable called *sqlStr* and initialize it with an SQL statement to retrieve all records from the *Movies* table matching the genre selected by the user.
 - Call the *loadDataGrid* sub procedure and passed the *sqlStr* variable as the argument.

End of Page.